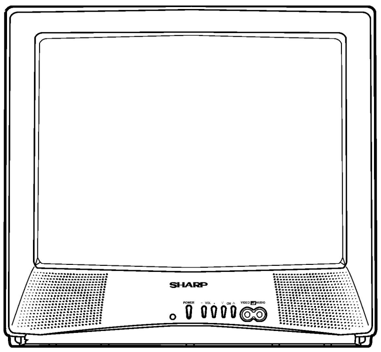
SHARP SERVICE MANUAL



COLOR TELEVISION

Chassis No. CD-A

MODELS 20MU14

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

CONTENTS

ELECTRICAL SPECIFICATIONS

POWER INPUT .... 120 V AC 60 Hz

POWER RATING .... 69 W

PICTURE SIZE .... 1,194cm^2 (185sq inch)

CONVERGENCE .... Magnetic

SWEEP DEFLECTION .... Magnetic

FOCUS .... Hi-Bi-Potential Electrostatic

INTERMEDIATE FREQUENCIES
- Picture IF Carrier Frequency .... 45.75 MHz
- Sound IF Carrier Frequency .... 41.25 MHz
- Color Sub-Carrier Frequency .... 42.17 MHz (Nominal)

AUDIO POWER
- OUTPUT RATING .... 1.0 W (at 10% distortion)

SPEAKER
- SIZE .... 8 cm (Round)
- VOICE COIL IMPEDANCE .... 8 ohm at 400 Hz

ANTENNA INPUT IMPEDANCE
- VHF/UHF .... 75 ohm Unbalanced

TUNING RANGES
- VHF-Channels .... 2 thru 13
- UHF-Channels .... 14 thru 69
- CATV Channels .... 1 thru 125 (EIA, Channel Plan U.S.A.)

Specifications are subject to change without prior notice.

SHARP CORPORATION

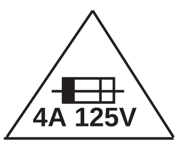
This document has been published to be used for after sales service only.
The contents are subject to change without notice.

IMPORTANT SERVICE SAFETY PRECAUTION

■ **Service work should be performed only by qualified service technicians who are thoroughly familiar with all safety checks and the servicing guidelines which follow:**

WARNING

1. For continued safety, no modification of any circuit should be attempted.
2. Disconnect AC power before servicing.
3. Semiconductor heat sinks are potential shock hazards when the chassis is operating.
4. The chassis in this receiver has two ground systems which are separated by insulating material. The non-isolated (hot) ground system is for the B+ voltage regulator circuit and the horizontal output circuit. The isolated ground system is for the low B+ DC voltages and the secondary circuit of the high voltage transformer.
   To prevent electrical shock use an isolation transformer between the line cord and power receptacle, when servicing this chassis.



CAUTION: FOR CONTINUED PROTECTION AGAINST A RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 4A-125V FUSE.

SERVICING OF HIGH VOLTAGE SYSTEM AND PICTURE TUBE

When servicing the high voltage system, remove the static charge by connecting a 10k ohm resistor in series with an insulated wire (such as a test probe) between the picture tube ground and the anode lead. (AC line cord should be disconnected from AC outlet.)

1. Picture tube in this receiver employs integral implosion protection.
2. Replace with tube of the same type number for continued safety.
3. Do not lift picture tube by the neck.
4. Handle the picture tube only when wearing shatterproof goggles and after discharging the high voltage anode completely.

X-RADIATION AND HIGH VOLTAGE LIMITS

1. Be sure all service personnel are aware of the procedures and instructions covering X-radiation. The only potential source of X-ray in current solid state TV receivers is the picture tube. However, the picture tube does not emit measurable X-Ray radiation, if the high voltage is as specified in the "High Voltage Check" instructions.
   It is only when high voltage is excessive that X-radiation is capable of penetrating the shell of the picture tube including the lead in the glass material. The important precaution is to keep the high voltage below the maximum level specified.
2. It is essential that servicemen have available at all times an accurate high voltage meter.
   The calibration of this meter should be checked periodically.
3. High voltage should always be kept at the rated value -no higher. Operation at higher voltages may cause a failure of the picture tube or high voltage circuitry and;also, under certain conditions, may produce radiation in exceeding of desirable levels.
4. When the high voltage regulator is operating properly there is no possibility of an X-radiation problem. Every time a color chassis is serviced, the brightness should be tested while monitoring the high voltage with a meter to be certain that the high voltage does not exceed the specified value and that it is regulating correctly.
5. Do not use a picture tube other than that specified or make unrecommended circuit modifications to the high voltage circuitry.
6. When troubleshooting and taking test measurements on a receiver with excessive high voltage, avoid being unnecessarily close to the receiver.
   Do not operate the receiver longer than is necessary to locate the cause of excessive voltage.

IMPORTANT SERVICE SAFETY PRECAUTION

(Continued)

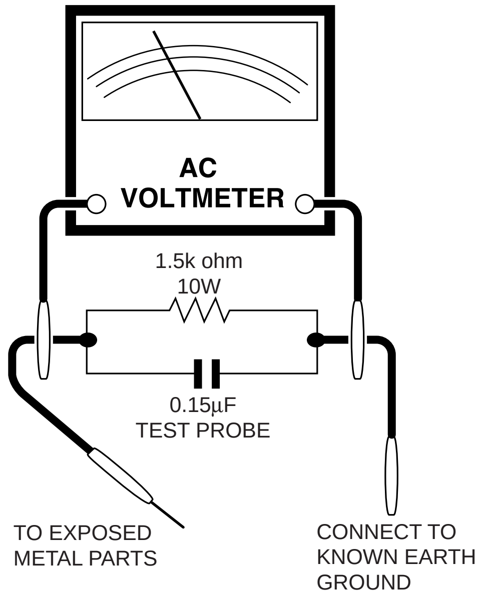
BEFORE RETURNING THE RECEIVER

(Fire & Shock Hazard)

Before returning the receiver to the user, perform the following safety checks.

1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the receiver.
2. Inspect all protective devices such as non-metallic control knobs, insulating materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators and etc.
3. To be sure that no shock hazard exists, check for leakage current in the following manner.

- Plug the AC cord directly into a 120 volt AC outlet, (Do not use an isolation transformer for this test).
- Using two clip leads, connect a 1.5k ohm, 10 watt resistor paralleled by a 0.15mF capacitor in series with all exposed metal cabinet parts and a known earth ground, such as electrical conduit or electrical ground connected to earth ground.
- Use an AC voltmeter having with 5000 ohm per volt, or higher, sensitivity to measure the AC voltage drop across the resistor.
- Connect the resistor connection to all exposed metal parts having a return to the chassis (antenna, metal cabinet, screw heads, knobs and control shafts, escutcheon and etc.) and measure the AC voltage drop across the resistor.
  AII checks must be repeated with the AC ine cord plug connection reversed. (If necessary, a non-polarized adapter plug must be used only for the purpose of completing these check.)
  Any current measured must not exceed 0.5 milliamp.
  Any measurements not within the limits outlined above indicate of a potential shock hazard and corrective action must be taken before returning the instrument to the customer.



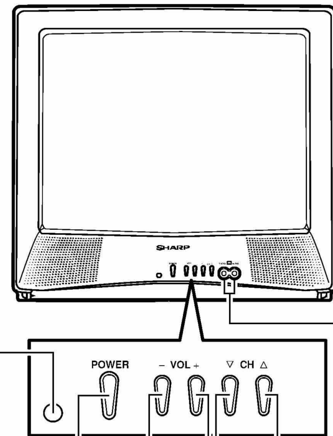
SAFETY NOTICE

Many electrical and mechanical parts in television receivers have special safety-related characteristics.
These characteristics are often not evident from visual inspection, nor can protection afforded by them be necessarily increased by using replacement components rated for higher voltage, wattage and etc.
Replacement parts which have these special safety characteristics are identified in this manual; electrical components having such features are identified by "⚠" and shaded areas in the Replacement Parts Lists and Schematic Diagrams.

For continued protection, replacement parts must be identical to those used in the original circuit. The use of substitute replacement parts which do not have the same safety characteristics as the factory recommended replacement parts shown in this service manual, may create shock, fire, X-radiation or other hazards.

LOCATION OF USER'S CONTROL

Front Panel



VIDEO/AUDIO IN TERMINALS

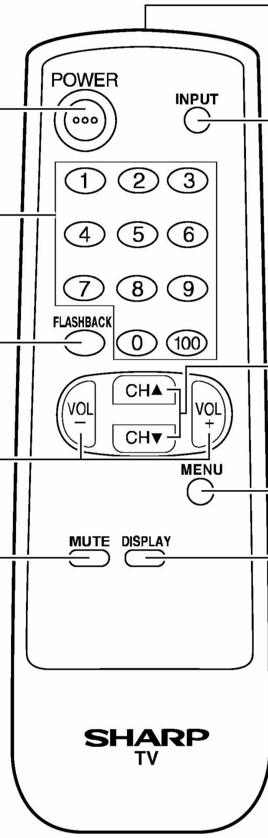
SENSOR AREA FOR REMOTE CONTROL

POWER
Press → On.
Press again → Off.

VOLUME UP/DOWN
(+) Increases sound.
(–) Decreases sound.

CHANNEL UP/DOWN
(▲) Selects next higher channel.
(▼) Selects next lower channel.

Basic Remote Control Functions



Infrared Transmitter Window

POWER
Press → On.
Press again → Off.

REMOTE KEYPAD
Accesses any channel from keypad.

FLASHBACK
Returns to previous channel.

VOLUME UP/DOWN
(+) Increases sound.
(–) Decreases sound.
- In menu mode, changes or selects the TV adjustments.

MUTE
Press → Mutes sound.
Press again → Restores sound.
- CLOSED CAPTION appears when sound is muted.

INPUT
Press → Switch to external video input mode.
Press again → Switch to TV mode.

CHANNEL UP/DOWN
(▲) Selects next higher channel.
(▼) Selects next lower channel.
- Moves the " ⬍ " mark of the MENU screen.

MENU
Press → Accesses MAIN MENU.
Press again → Exits MAIN MENU.

DISPLAY
Press → Displays receiving channel for 4 seconds.
Press again → Removes display.
- Temporarily displays receiving channel when in Closed Caption mode.

INSTALLATION AND SERVICE INSTRUCTIONS

Note: (1) When performing any adjustments to resistor controls and transformers use non-metallic screwdrivers or TV alignment tools.
(2) Before performing adjustments, the TV set must be on at least 15 minutes.

CIRCUIT PROTECTION

The receiver is protected by a 4.0A fuse (F701), mounted on PWB-A, wired into one side of the AC line input.

X-RADIATION PROTECTOR CIRCUIT TEST

After service has been performed on the horizontal deflection system, high voltage system, +B system, test the X-Radiation protection circuit to ascertain proper operation as follows:

1) Apply 120V AC using a variac transformer for accurate input voltage.
2) Allow for warm up and adjust all customer controls for normal picture and sound.
3) Receive a good local channel.
4) Connect a digital voltmeter to TP653 and make sure that the voltmeter reads 21.3 ±1.5 V.
5) Apply external 28.9V DC at TP653 by using an external DC supply, TV must be shut off.
6) To reset the protector, unplug the AC cord and make a short circuit between TP651 and TP652. Now make sure that normal picture appears on the screen.
7) If the operation of the horizontal oscillator does not stop in step 5, the circuit must be repaired before the set is returned to the customer.

HIGH VOLTAGE CHECK

High voltage is not adjustable but must be checked to verify that the receiver is operating within safe and efficient design limitations as specified checks should be as follows:

1. Connect an accurate high voltage meter between ground and anode of picture tube.
2. Operate receiver for at least 15 minutes at 120V AC line voltage, with a strong air signal or a properly tuned in test signal.
3. Enter the service mode and select the service adjustment "S19" and Bus data "01" (Y-mute on).
4. The voltage should be approximately, 26.0kV (at zero beam).
   If a correct reading cannot be obtained, check circuitry for malfunctioning components. After the voltage test, make Y-mute off to the normal mode.

For adjustments of this model, the bus data is converted to various analog signals by the D/A converter circuit.

Note: There are still a few analog adjustments in this series such as focus and master screen voltage. Follow the steps below whenever the service adjustment is required. See "Table-B" to determine, if service adjustments are required.

1. Service mode

Before putting unit into the service mode, check that customer adjustments are in the normal mode. Use the reset function in the video adjustment menu to ensure customer controls are in their proper (reset) position.

2. Service number selection

Once in the service mode, press the Ch-up or Ch-down button on the remote controller or at the set. The service adjustment number will vary in increments of one, from "S01" to "OP". Select the item you wish to adjust.

3. Data number selection

Press the Vol-up or down button to adjust the data number.

To enter the service mode and exit service mode.

While pressing the Vol-up and Ch-up buttons at the sametime, plug the AC cord into a wall socket.
Now the TV set is switched on and enters the service mode.
To exit the service mode, turn the television off by pressing the power button.

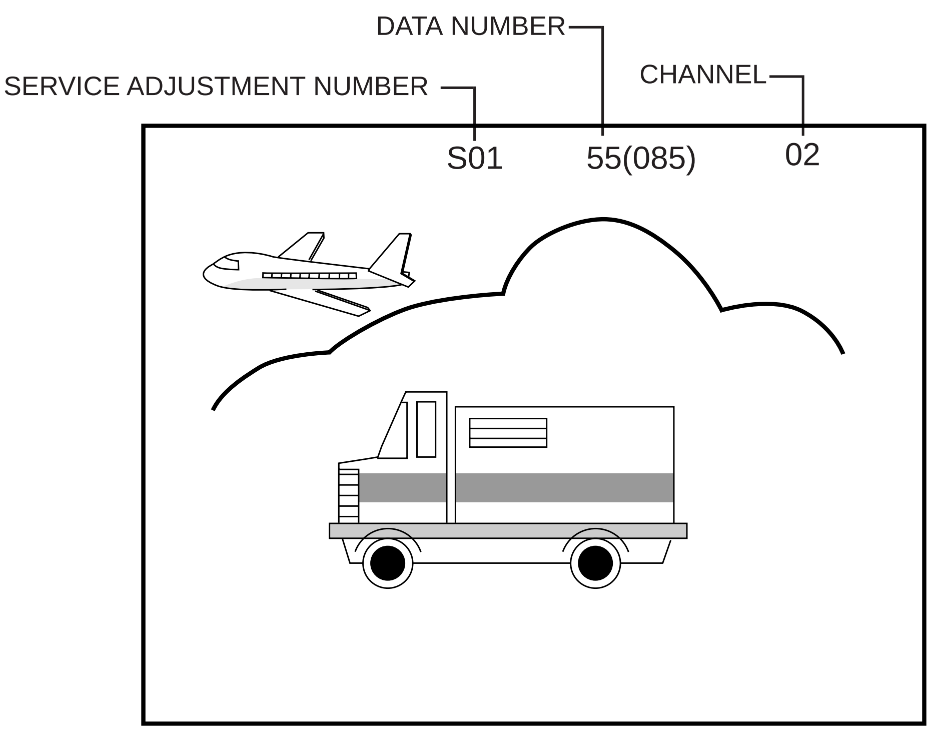


Figure A.

SERVICE NUMBER	ADJUSTMENT ITEM	DATA		ADJUSTMENT CONTENTS
		INITIAL VALUE	RANGE	
S01	PICTURE	55	00-7F	
S02	TINT	46	00-7F	
S03	COLOR	32	00-7F	
S04	BRIGHTNESS	40	00-7F	
S05	SHARPNESS	28	00-3F	Must be set to "24"
S06	VERTICAL PHASE	00	00-07	Must be set to "00" ~ "03"
S07	HORIZONTAL PHASE	12	00-1F	
S08	RF-AGC	23	00-3F	
S09	VERTICAL AMP	20	00-3F	
S10	VCO	2C	00-7F	
S11	R CUT-OFF	00	00-FF	
S12	G CUT -OFF	00	00-FF	
S13	B CUT-OFF	00	00-FF	
S14	G GAIN	7F	00-FF	
S15	B GAIN	7F	00-FF	
S16	TRAP(3.58MHz)	00	00 or 01	Must be set to "00"
S17	BALANCE	20	00-3F	Must be set to "20"
S18	C.C.POSITION	17	00-7F	
S19	Y-MUTE	00	00,01,03	"00" = NORMAL, "01" = No Y, "03" = No VERTICAL
S20	ENERGY SAVE OFFSET	20	00-3F	Must be set to "23"
S21	D.D.E. OFFSET	03	00-1F	Must be set to "03"
S22	OSD SETUP	00	00-03	Must be set to "00"
S23	TUNER SETUP	00	00-01	Must be set to "00"
OP	OPTION	30	00-FF	Must be set to "02"

Table - A

Holding down both the CH-up/down buttons on the TV set at service mode for more than 2 seconds will automatically write the above initial values into IC2101.

PART REPLACED	ADJUSTMENT		NOTES
	NECESSARY	UNNECESSARY	
IC2001		X	Data is stored in IC2101.
IC201	X		The adjustment is needed to compensate for characteristics of parts including IC201.
IC2101	X		Holding down both the CH-up/down buttons on the TV set in the service mode for more than 2 seconds will automatically write the above initial values into IC2101.
CRT	X		Adjust items related to picture tube only.

Table - B

SERVICE ADJUSTMENT

VCO Adjustment

1. Connect a digital voltmeter between pin (44) of IC201 and ground.
2. Receive a good local channel.
3. Enter the service mode and select the service adjustment "S10".
4. Adjust the data so that digital voltmeter reads 2.2V.
5. Adjustment is completed, remove the voltmeter, return to "normal" mode.

RF AGC Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "S08".
3. Set the data value to point where no noise or beat appears.
4. Select another channel to confirm that no noise or beat appears.
   Note 1: You will have to come out of the service mode to select another channel.
   Note 2: Setting the data to "00" will produce a black raster.

Screen Adjustment

1. Connect a digital voltmeter between TP852 and TP853 on the CRT Unit.
   Note: These test points may not be provided. Then connect the voltmeter to both ends of R852 located near Q852 on the foil side.
2. Receive a good local channel.
3. Enter the service mode and select the service adjustment "S03" and set the data value to "00" to set the color level to minimum. (Record original data code under adjustment "S03" before changing) You may skip this step, if you selected a B/W picture or monoscope pattern.
4. Select the service adjustment "S19" and adjust the data value to "01", this turn off the luminance signal (Y-mute).
5. Select the service adjustment "S04" and adjust data value to obtain 0.17 volts on the digital voltmeter.
6. Adjust the master screen cotrol until the raster darkens to the point where raster is barely seen.
7. Adjust the service adjustments "S11" red, "S12" green and "S13" blue to obtain a good grey scale with normal whites at low brightness level.
8. Select the service adjustment "S19" and reset data to "00". Select the service adjustment "S03" and reset data to obtain normal color level.
9. Remove digital voltmeter, and reset the master screen control to obtain normal brightness range.

White Balance Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "S03" and set to "00" (minimum color)(Record original data code under adjustment "S03" before changing). "S03" does not have to be adjusted, if you selected a B/W picture or monoscope pattern.
3. Alternately adjust the service adjustment data of "S14" and "S15" until a good grey scale with normal whites is obtained.
4. Select the service adjustment "S03" and adjust data to obtain normal color level.

Sub-Picture Adjustment

1. Receive a good local channel.
2. Make sure the customer picture control is set to maximum.
3. Enter the service mode and select the service adjustment "S01".
4. Adjust the data value to achieve normal contrast range.

Sub-Tint Adjustment

1. Receive a good local channel.
2. Set customer tint control to center of it's range.
3. Enter the service mode and select the service adjustment "S02".
4. Adjust "S02" data value to obtain normal flesh tones.

Sub-Color Adjustment

1. Receive a good local channel.
2. Make sure the customer color control is set to center position .
3. Enter the service mode and select service adjustment "S03".
4. Adjust "S03" data value to obtain normal color level.

DESCRIPTION OF SCHEMATIC DIAGRAM

NOTES:

1. *The unit of resistance "ohm" is omitted. (K=kΩ=1000Ω, M=MΩ)*
2. *All resistors are 1/10 watt, unless otherwise noted.*
3. *All capacitors are µF, unless otherwise noted. (P=pF=µµF)*
4. *(G) indicates ±2% tolerance may be used.*
5. *⏚ indicates line isolated ground.*

VOLTAGE MEASUREMENT CONDITIONS:

1. *All DC voltages are measured with DVM connected between points indicated and chassis ground, line voltage set at 120V AC and all controls set for normal picture unless otherwise indicated.*
2. *All voltages measured with 1000µ V B & W or Color signal.*

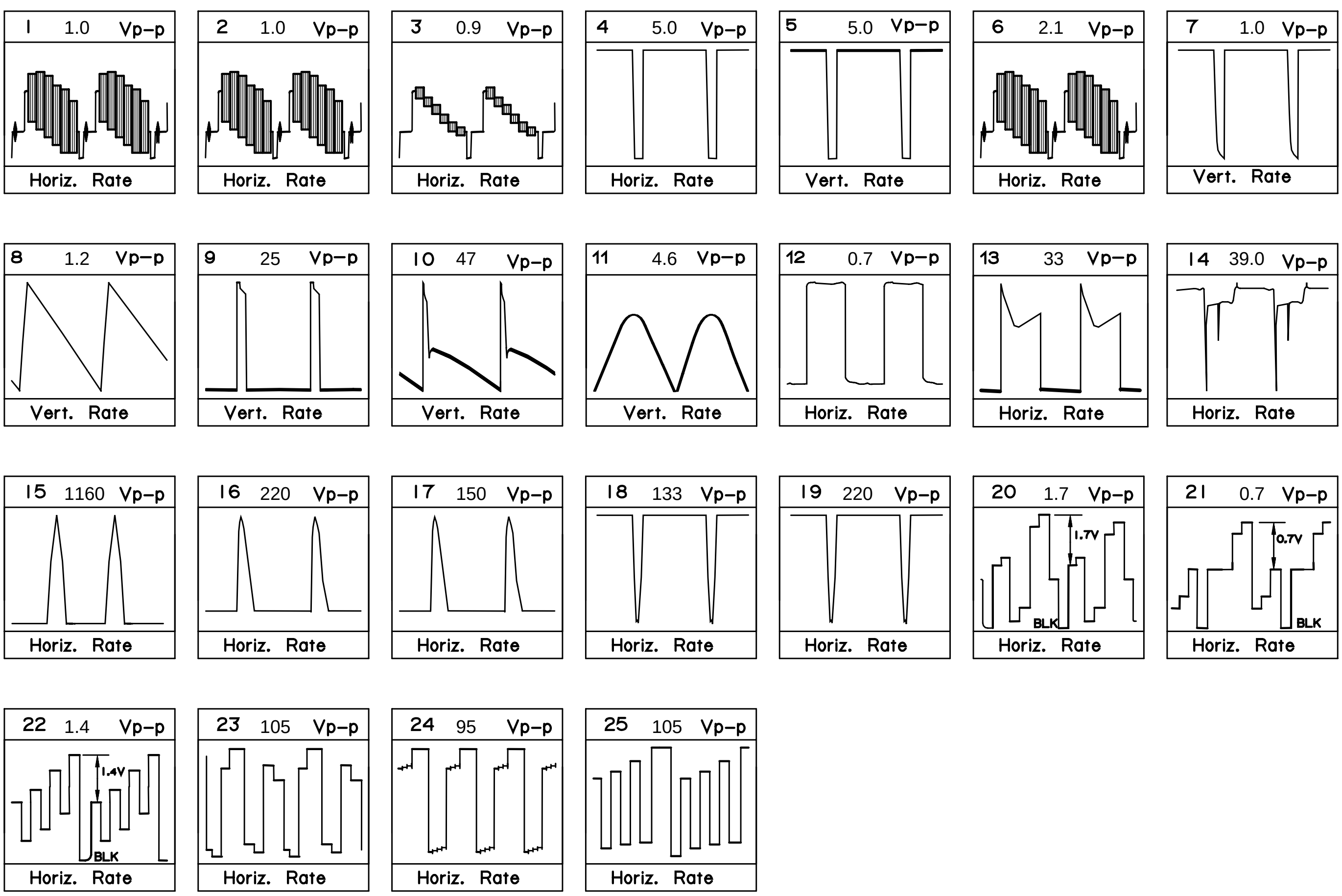
WAVEFORM MEASUREMENT CONDITIONS:

1. *Photographs taken on a standard gated color bar signal, the tint setting adjusted for proper color. The wave shapes at the red, green and blue cathodes of the picture tube depend on the tint, color level and picture control.*
2. *⊸ indicates waveform check points (See chart, waveforms are measured from point indicated to chassis ground.)*

⚠ AND SHADED (   ) COMPONENTS = SAFETY RELATED PARTS.
▲ MARK= X-RAY RELATED PARTS.

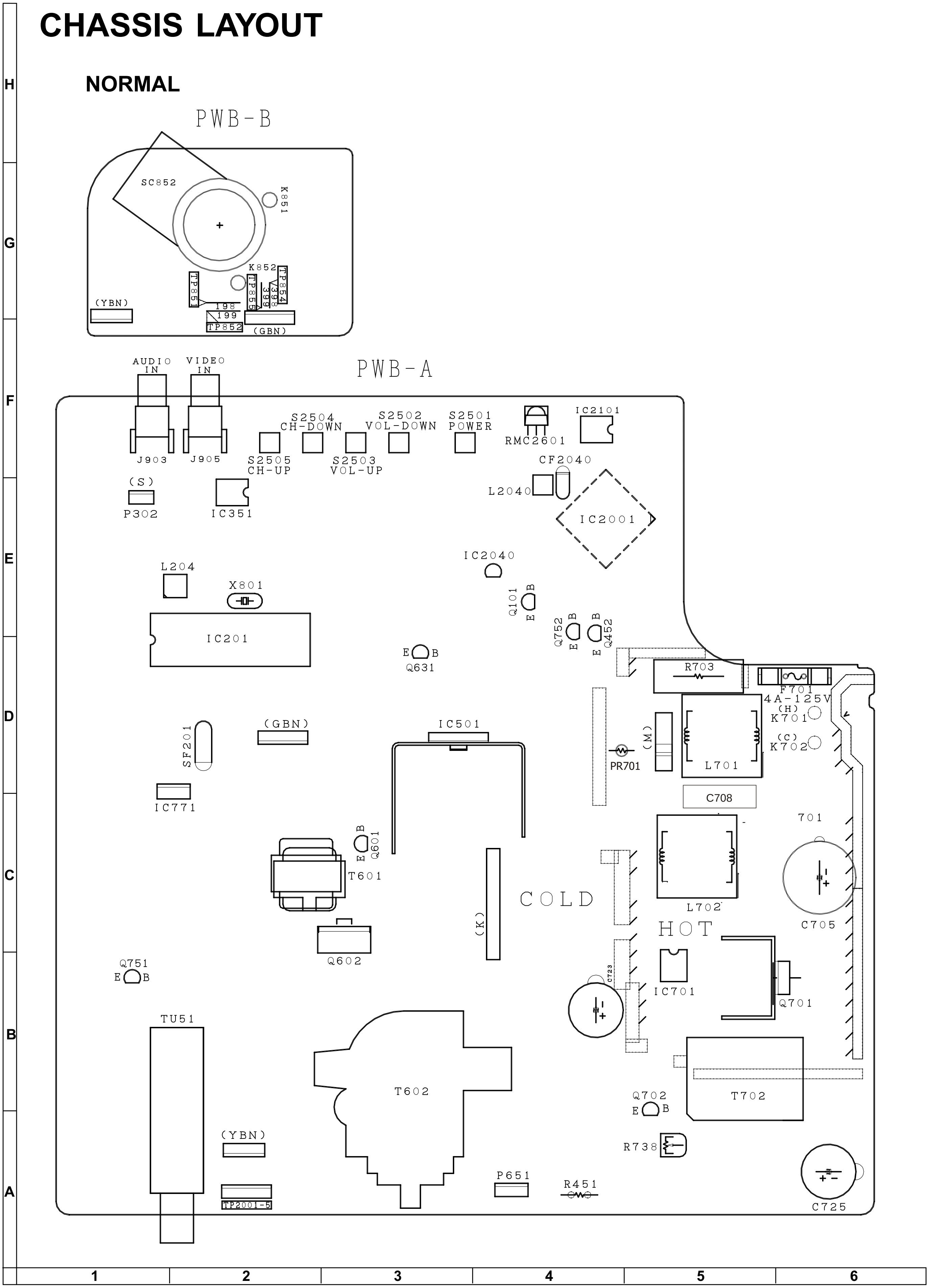
This circuit diagram is a standard one, printed circuits may be subject to change for product improvement without prior notice.

WAVEFORMS

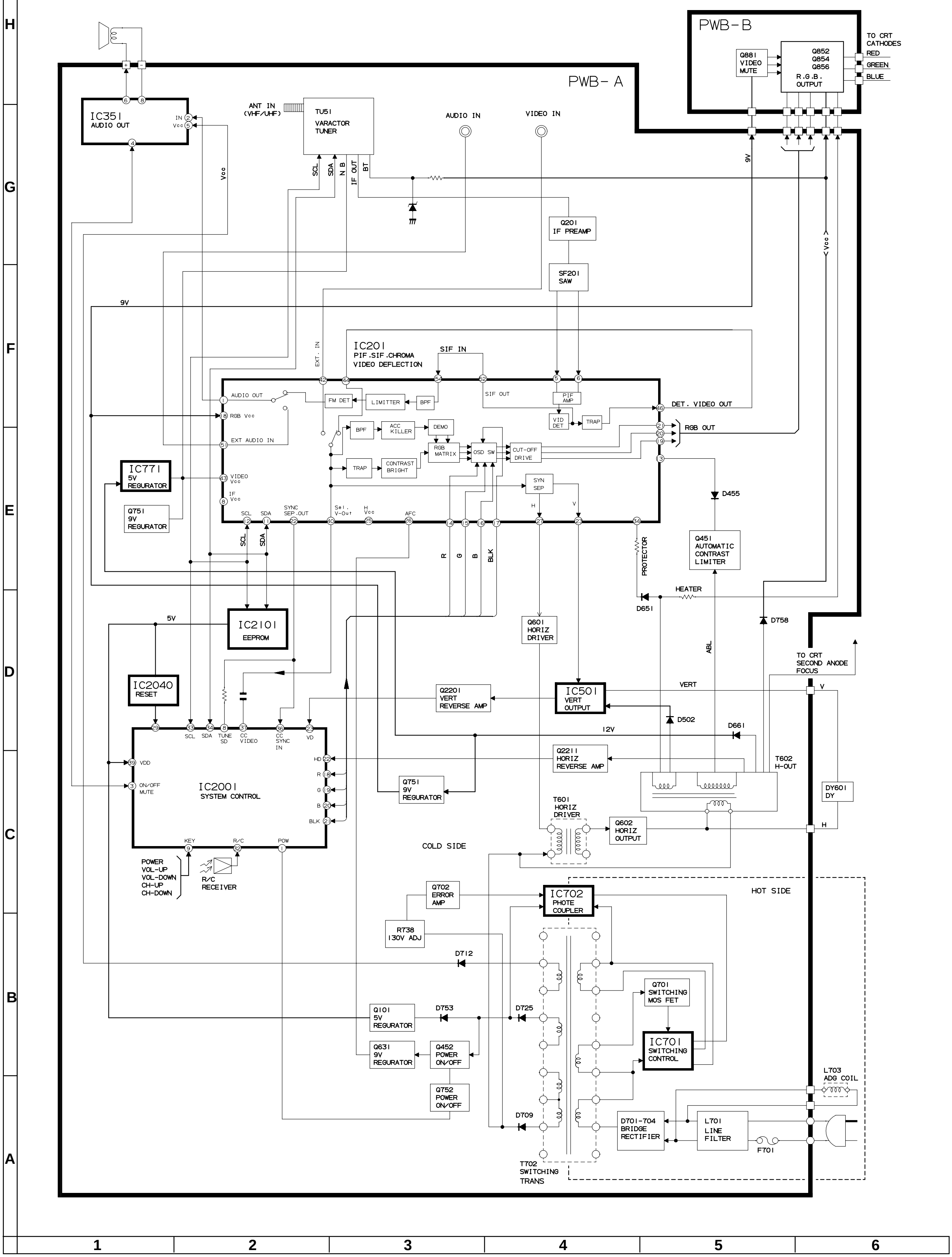


CHASSIS LAYOUT

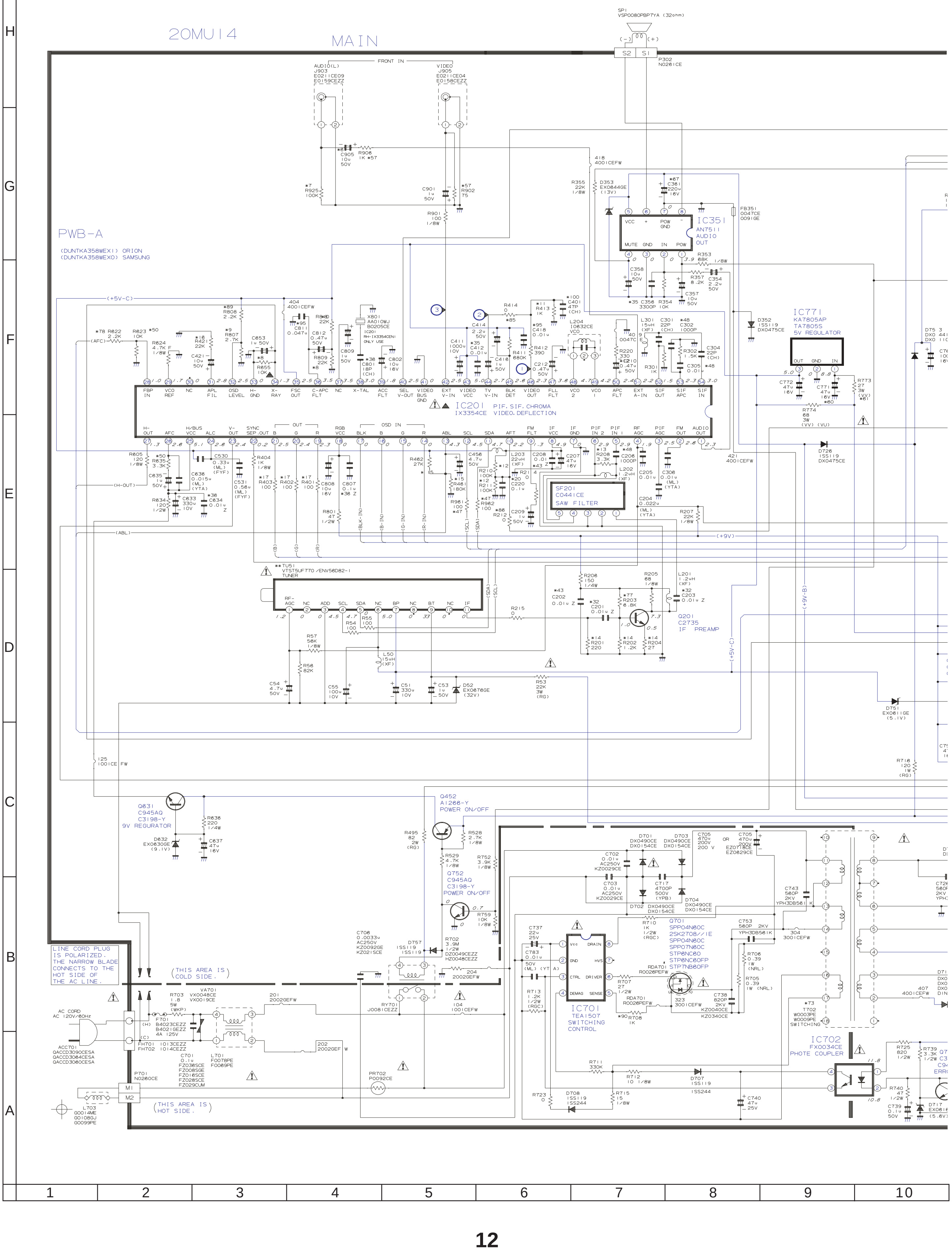
NORMAL



BLOCK DIAGRAM



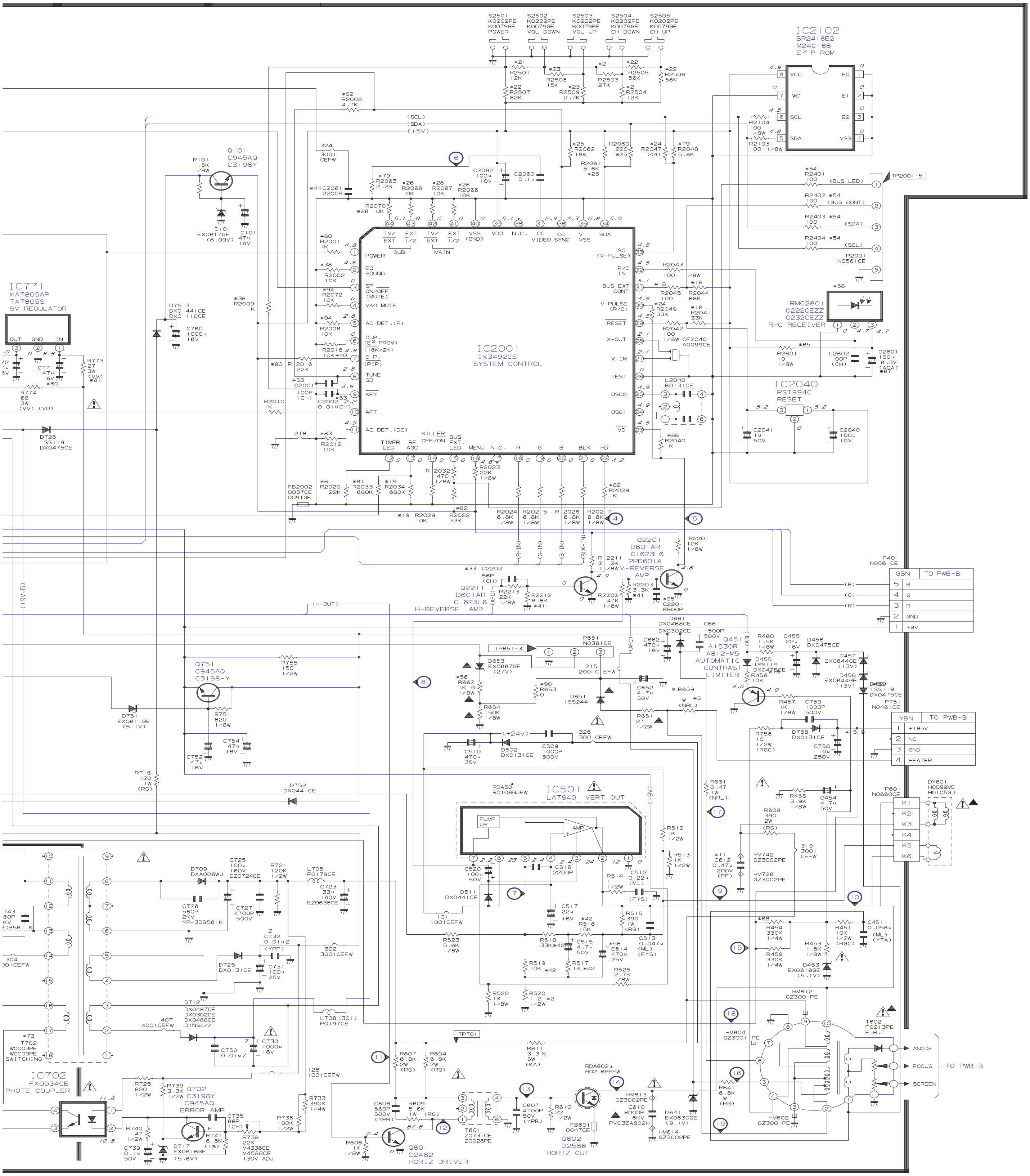
SCHEMATIC DIAGRAM: MAIN-1 Unit



REF	CRT SAMSUNG	CRT ORION
C810	VCFPVC3ZA802H	VCFPVC3ZA772H
R520	VRD-RM2HD1R2J*	VRD-RM2HD1R5J*
R527		VRD-RA2BE223J*
R859	VRN-RL3AB1R0J+	VRN-RL3AB3R3J+

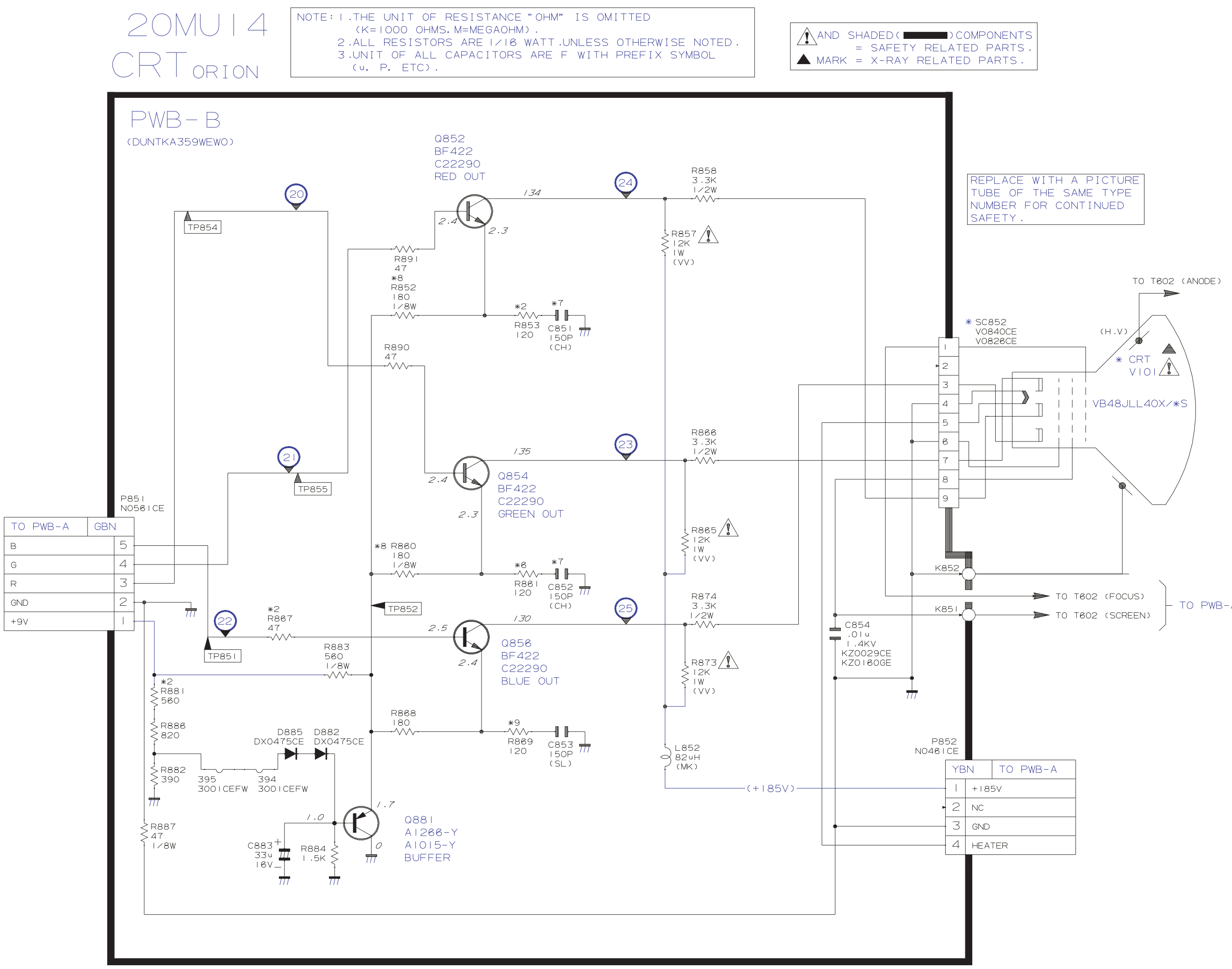
⚠ AND SHADED (▬) COMPONENTS = SAFETY RELATED PARTS.
▲ MARK = X-RAY RELATED PARTS.

NOTE: 1. THE UNIT OF RESISTANCE "OHM" IS OMITTED (K=1000 OHMS, M=MEGAOHM).
2. ALL RESISTORS ARE 1/16 WATT, UNLESS OTHERWISE NOTED.
3. UNIT OF ALL CAPACITORS ARE F WITH PREFIX SYMBOL (u, P, ETC).



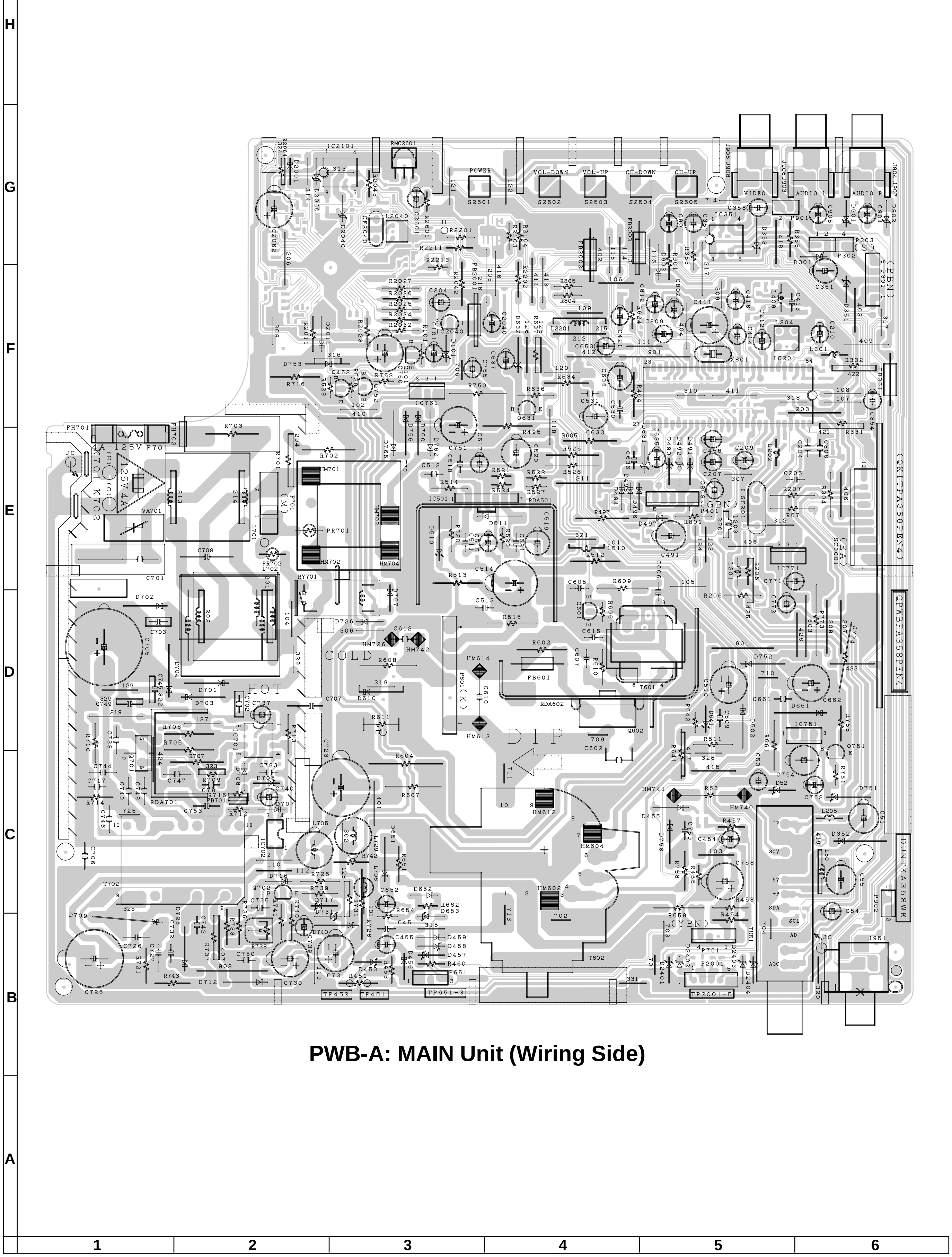
10	11	12	13	14	15	16	17	18	19

SCHEMATIC DIAGRAM: CRT Unit

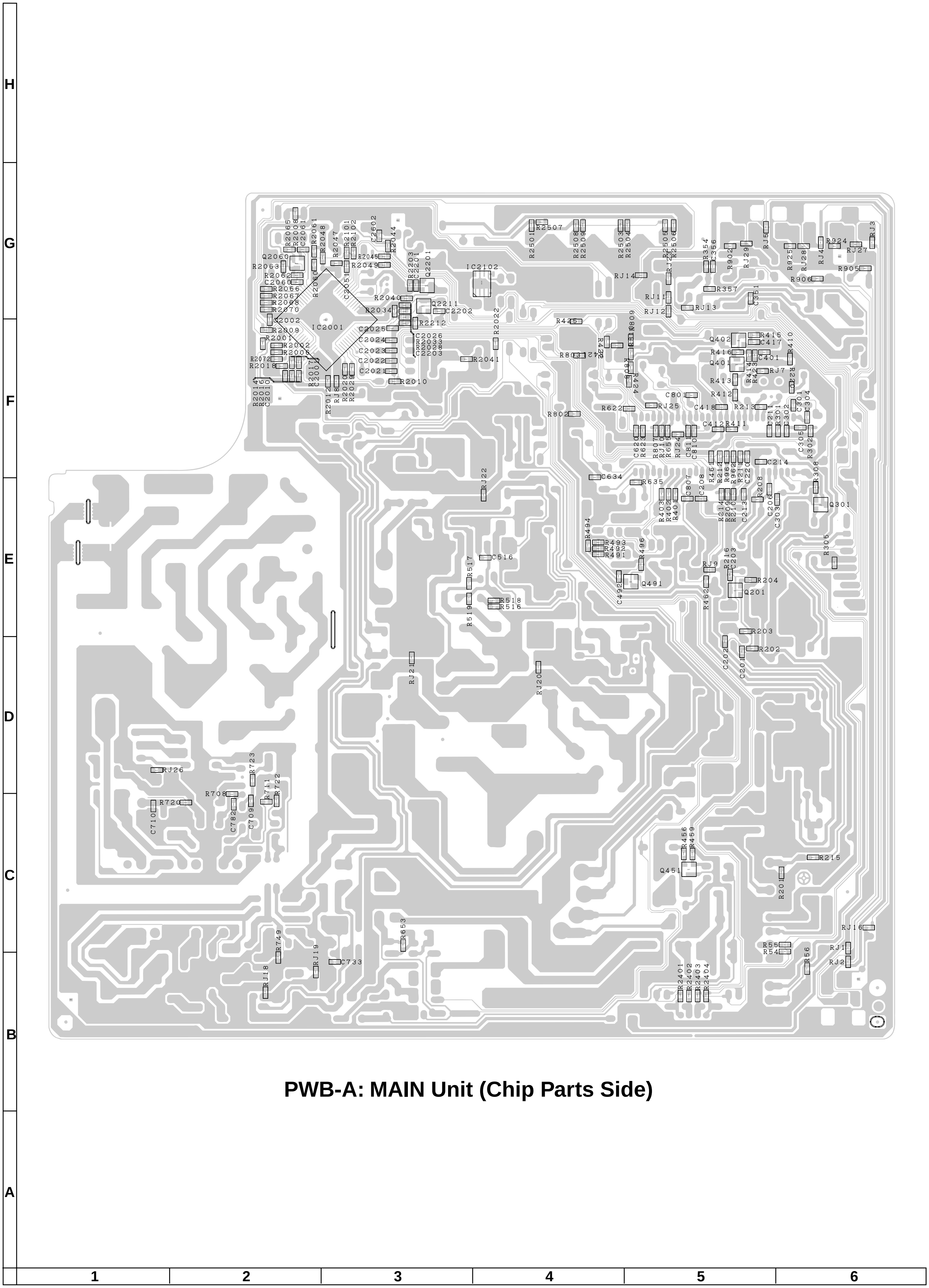


1	2	3	4	5	6

PRINTED WIRING BOARD ASSEMBLIES



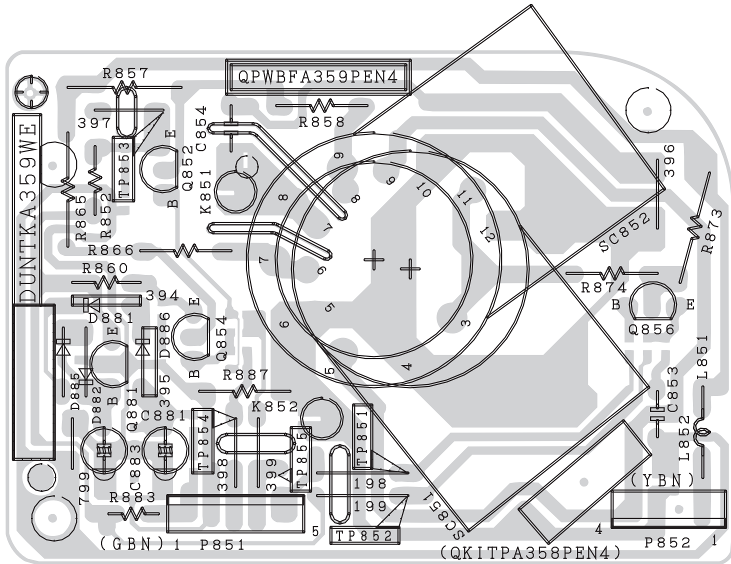
PWB-A: MAIN Unit (Wiring Side)



PWB-A: MAIN Unit (Chip Parts Side)

H

G

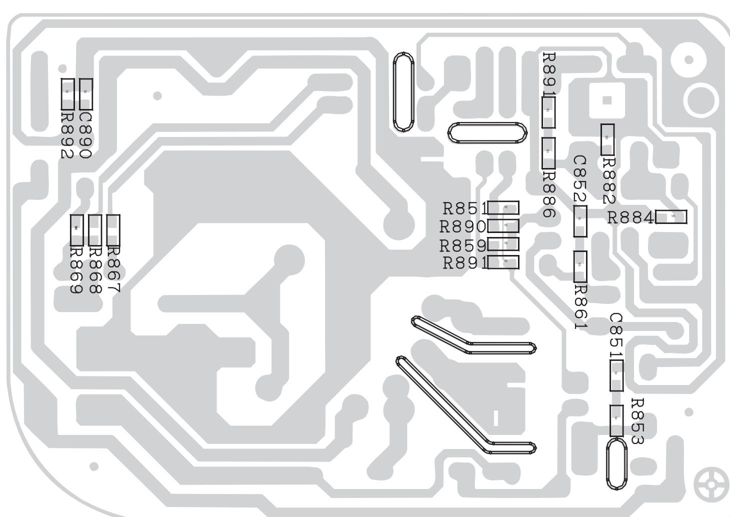


F

PWB-B: CRT Unit (Wiring Side)

E

D



C

B

PWB-B: CRT Unit (Chip Parts Side)

A

1	2	3	4	5	6

PARTS LIST

PARTS REPLACEMENT

Replacement parts which have these special safety characteristics identified in this manual; electrical components having such features are identified by ⚠ and shaded areas in the Replacement Parts Lists and Schematic Diagrams. The use of a substitute replacement part which dose no have the same safety characteristic as the factory recommended replacement parts shown in this service manual may create shock, fire or other hazards.

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER   2. REF. NO.
3. PART NO.   4. DESCRIPTION

in **USA**: Contact your nearest SHARP Parts Distributor to order. For location of SHARP Parts Distributor, Please call Toll-Free; 1-800-BE-SHARP

★ MARK: SPARE PARTS-DELIVERY SECTION

▲ MARK: X-RAY RELATED PARTS

PICTURE TUBE

	Ref. No.	Part No.	★	Description	Code
▲ ⚠	V101	VB48JLL40X/*S	X	CRT 19V (ORION)	BR
⚠	L703	RCILG0099PEZZ	X	DEGAUSSING COIL (19V)	AF
▲ ⚠	DY601	RCILH0105GJZZ	X	DY (20V)	AQ
		QEARC2016PEZZ	X	EARTH PARTS	AC
		PMAGF3045CEZZ	X	PURITY MAGNET	AC
		PSPAG0012MEZZ	X	WEDGE	AB
		PSPAG0001PE00	X	CRT SCREW RUB WASHER	AE
		LHLDW1033PEZZ	X	WIRE TIE (10.4 CM)	AA

PRINTED WIRING BOARD ASSEMBLIES

(NOT REPLACEMENT ITEM)

Part No.	★	Description	Code
DUNTKA358WEX1	–	MAIN Unit	—
DUNTKA359WEW0	–	CRT Unit	—

PWB-A: DUNTKA358WEX1
MAIN UNIT

TUNER

NOTE:THE PARTS HERE SHOWN ARE SUPPLIED AS AN ASSEMBLY BUT NOT INDEPENDETLY

	Ref. No.	Part No.	★	Description			Code
⚠	TU51	VTUVT1T5UF214	X	TUNER			AP
				INTEGRATED CIRCUITS			
	IC201	RH-IX3354CEN1	X	IX3354CE			AM
	IC351	VHIAN7511//-1	X	AN7511			AC
⚠	IC501	VHILA7840//-1	X	LA7840			AE
⚠	IC701	VHITEA1507/-1	X	TEA1507			AE
⚠	IC702	RH-FX0034CEZZ	X	FX0034CE			AB
⚠	IC771	VHIKA7805AP-1	X	KA7805AP			AC
	IC2001	RH-IX3492CEZZQ	X	IX3492CE			AN
	IC2040	VHIPST994C/-1+	X	PST994C			AB
	IC2102	VHIBR24L16F-1Y	X	BR24L16F			AC
				TRANSISTORS			
	Q101	VS2SC945AQ/-1+	X	2SC945AQ			AB
	Q201	VS2SC2735//1EY	X	2SC2735			AB
	Q451	VS2SA1530R/-1Y	X	2SA1530R			AB
	Q452	VS2SA1266-Y-1+	X	2SA1266(Y)			AB
	Q601	VS2SC2482//-1+	X	2SC2482			AB
⚠	Q602	VS2SD2586//1E	X	2SD2586			AF
	Q631	VS2SC945AQ/-1+	X	2SC945AQ			AB
⚠	Q701	VSSPA04N603-1	X	SPA04N603			AF
	Q702	VS2SC945AQ/-1+	X	2SC945AQ			AB
	Q751	VS2SC945AQ/-1+	X	2SC945AQ			AB
	Q752	VS2SC945AQ/-1+	X	2SC945AQ			AB
	Q2201	VS2SD601AR/-1Y	X	2SD601AR			AB
	Q2211	VS2SD601AR/-1Y	X	2SD601AR			AB
				DIODES			
	D52	RH-EX0676GEZZY	X	Zener	Diode	32V	AB
	D101	RH-EX0617GEZZY	X	Zener	Diode	5.6V	AB
	D352	VHD1SS119//-1Y	X	Diode			AA
	D353	RH-EX0644GEZZY	X	Zener	Diode	13V	AB
	D453	RH-EX0616GEZZY	X	Zener	Diode	5.6V	AB
	D455	VHD1SS119//-1Y	X	Diode			AA
	D456	RH-DX0475CEZZY	X	Diode			AB
	D457	RH-EX0644GEZZY	X	Zener	Diode	13V	AB
	D458	RH-EX0644GEZZY	X	Zener	Diode	13V	AB
	D459	VHD1SS119//-1Y	X	Diode			AA
	D502	RH-DX0131CEZZY	X	Diode			AB
	D511	RH-DX0441CEZZY	X	Diode			AB
	D632	RH-EX0630GEZZY	X	Zener	Diode	9.1V	AB
	D641	RH-EX0630GEZZY	X	Zener	Diode	9.1V	AB
	D651	VHD1SS244//-1Y	X	Diode			AB
	D653	RH-EX0667GEZZY	X	Zener	Diode	27V	AB
	D661	RH-DX0468CEZZ	X	Diode			AB
	D701	RH-DX0490CEZZY	X	Diode			AB
	D702	RH-DX0490CEZZY	X	Diode			AB
	D703	RH-DX0490CEZZY	X	Diode			AB
	D704	RH-DX0490CEZZY	X	Diode			AB
	D707	VHD1SS119//-1Y	X	Diode			AA
	D708	VHD1SS119//-1Y	X	Diode			AA
	D709	RH-DXA006WJZZ	X	Diode			AB
	D712	RH-DX0487CEZZY	X	Diode			AB
	D717	RH-EX0616GEZZY	X	Zener	Diode	5.6V	AB
	D725	RH-DX0131CEZZY	X	Diode			AB
	D726	VHD1SS119//-1Y	X	Diode			AA
	D751	RH-EX0611GEZZY	X	Zener	Diode	5.1V	AB
	D752	RH-DX0441CEZZY	X	Diode			AB
	D753	RH-DX0441CEZZY	X	Diode			AB
	D757	VHD1SS119//-1Y	X	Diode			AA
	D758	RH-DX0131CEZZY	X	Diode			AB
	VA701	RH-VXA009WJZZ	X	VARISTOR			AB
				PACKAGED CIRCUITS			
	PR702	RMPTP0092CEZZ	X	Packaged Circuit			AD
	X801	RCRSAA010WJZZ	X	CRYSTAL			AC

PWB-A: DUNTKA358WEX1
MAIN UNIT (Continued)

PACKAGED CIRCUITS

Ref. No.	Part No.	★	Description	Code
CF2040	RFILA0099CEZZ+	X	FILTER	AB
SF201	RFILC0441CEZZ	X	SAW Filter	AD

FILTERS AND COILS

	Ref. No.	Part No.	★	Description		Code
	L50	VP-DF150K0000Y	X	Peaking	15μH	AB
	L201	VP-XF1R2K0000Y	X	Peaking	1.2μH	AB
	L202	VP-XF1R2K0000Y	X	Peaking	1.2μH	AB
	L203	VP-XF220K0000Y	X	Peaking	22μH	AB
	L204	RCILI0632CEZZ	X	IF Coil		AB
	L301	VP-XF150K0000Y	X	Peaking	15μH	AB
⚠	L701	RCILF0078PEZZ	X	Coil	Line Filter	AC
⚠	L705	RCILP0179CEZZ+	X	Coil		AB
	L706	RCILP0197CEZZ	X	Coil		AB
	L2040	RCILB0131CEZZ	X	Coil	(OSC)	AB

TRANSFORMERS

	Ref. No.	Part No.	★	Description	Code
▲ ⚠	T601	RTRNZ0731CEZZ	X	Transformer	AD
⚠	T602	RTRNF0213PEZZ	X	H-Volt Transformer	AP
⚠	T702	RTRNW0003PEZZ	X	Power Transformer	AE

CONTROL

Ref. No.	Part No.	★	Description		Code
R738	RVR-M4588CEZZ+	X	22k	130V Adj.	AB

CAPACITORS
[EL.··· Electrolytic, M-Poly.··· Metalized Polypro Film]

Ref. No.	Part No.	★	Description			Code
C51	VCEA0A1AW337M+	X	330	10V	EL.	AB
C53	VCEA0A1HW105M+	X	1	50V	EL.	AB
C54	VCEA0A1HW475M+	X	4.7	50V	EL.	AB
C55	VCEA0A1AW107M+	X	100	10V	EL.	AB
C101	VCEA0A1CW476M+	X	47	16V	EL.	AB
C201	VCKYCY1HF103ZY	X	0.01	50V	Ceramic	AA
C202	VCKYCY1HF103ZY	X	0.01	50V	Ceramic	AA
C203	VCKYCY1HF103ZY	X	0.01	50V	Ceramic	AA
C204	VCQYTA1HM223J+	X	0.022	50V	Mylar	AB
C205	VCKYPA1HB103K+	X	0.01	50V	Ceramic	AB
C206	VCKYCY1HB102KY	X	1000p	50V	Ceramic	AA
C207	VCEA0A1CW476M+	X	47	16V	EL.	AB
C208	VCKYCY1HF103ZY	X	0.01	50V	Ceramic	AA
C209	VCEA0A1HW105M+	X	1	50V	EL.	AB
C210	VCEA0A1HW474M+	X	0.47	50V	EL.	AB
C212	VCEA0A1HW474M+	X	0.47	50V	EL.	AB
C220	VCKYCY1CB104KY	X	0.1	16V	Ceramic	AA
C301	VCCCCY1HH220JY	X	22p	50V	Ceramic	AA
C302	VCKYCY1HB102KY	X	1000p	50V	Ceramic	AA
C304	VCCCCY1HH220JY	X	22p	50V	Ceramic	AA
C305	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C306	VCQYTA1HM103J+	X	0.01	50V	Mylar	AB
C354	VCEA0A1HW225M+	X	2.2	50V	EL.	AB
C356	VCKYCY1HB332KY	X	3300p	50V	Ceramic	AA
C357	VCEA0A1HW106M+	X	10	50V	EL.	AB
C358	VCEA0A1HW106M+	X	10	50V	EL.	AB
C361	VCEA0A1CW227M+	X	220	16V	EL.	AB
C401	VCCCCY1HH470JY	X	47p	50V	Ceramic	AA
C411	VCEA0A1AW108M+	X	1000	10V	EL.	AB
C412	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C414	VCEA0A1HW225M+	X	2.2	50V	EL.	AB
C416	VCEA0A1HW105M+	X	1	50V	EL.	AB
C418	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C421	VCEA0A1HW106M+	X	10	50V	EL.	AB
C451	VCQYTA1HM563J+	X	0.056	50V	Mylar	AB
C454	VCEA0A1HW475M+	X	4.7	50V	EL.	AB
C455	VCEA0A1CW226M+	X	22	16V	EL.	AB
C456	VCEA0A1HW475M+	X	4.7	50V	EL.	AB
C509	VCKYPA2HB102K+	X	1000p	500V	Ceramic	AB
C510	VCEA0A1VW477M+	X	470	35V	EL.	AB
C512	VCFYSA1JB224J+	X	0.22	63V	Mylar	AB
C513	VCFYSA1JB473J+	X	0.047	63V	Mylar	AB
C514	VCEA0A1EW477M+	X	470	25V	EL.	AB
C515	VCEA0A1HW475M+	X	4.7	50V	EL.	AB

CAPACITORS

Ref. No.	Part No.	★	Description			Code
C516	VCKYCY1HB222KY	X	2200p	50V	Ceramic	AA
C517	VCEA0A1CW226M+	X	22	16V	EL.	AB
C520	VCEA0A1HW107M+	X	100	50V	EL.	AB
C530	VCFYFA1HA334J+	X	0.33	50V	Mylar	AB
C531	VCFYFA1HA564J+	X	0.56	50V	Mylar	AB
C606	VCKYPA2HB561K+	X	560p	500V	Ceramic	AB
C607	VCKYPA1HB472K+	X	4700p	50V	Ceramic	AB
C610	VCFPVC3ZA772H	X	7700p	1.5kV	M-Poly.	AB
C612	VCFPVC2DB474J	X	0.47	200V	M-Poly.	AB
C633	VCEA0A1AW337M+	X	330	10V	EL.	AB
C634	VCKYCY1HF103ZY	X	0.01	50V	Ceramic	AA
C635	VCEA0A1HW105M+	X	1.0	50V	EL.	AB
C636	VCQYTA1HM153J+	X	0.015	50V	Mylar	AB
C637	VCEA0A1CW476M+	X	47	16V	EL.	AB
C652	VCEA0A1HW475M+	X	4.7	50V	EL.	AB
C653	VCEA0A1HW105M+	X	1.0	50V	EL.	AB
C661	VCKYPA2HB152K+	X	1500p	500V	Ceramic	AB
C662	VCEA0A1CW477M+	X	470	16V	EL.	AB
C701	RC-FZ036SCEZZ	X	0.1μF	AC125V	Plastic	AB
C702	RC-KZ0029CEZZ+	X	0.01	250V	Ceramic	AB
C703	RC-KZ0029CEZZ+	X	0.01	250V	Ceramic	AB
C705	RC-EZ0718CEZZ	X	470	200V	EL.	AE
C706	RC-KZ0092GEZZA	X	3300p	AC125V	Ceramic	AB
C717	VCKYPA2HB472K+	X	4700p	500V	Ceramic	AB
C723	RC-EZ0638CEZZ	X	33	160V	EL.	AC
C725	RC-EZ0724CEZZ	X	100μF	160V	EL.	AC
C726	VCKYPH3DB561K	X	560p	2kV	Ceramic	AB
C727	VCKYPA2HB472K+	X	4700p	500V	Ceramic	AB
C730	VCEA0A1CW108M+	X	1000μF	16V	EL.	AB
C731	VCEA0A1EW107M+	X	220μF	25V	EL.	AB
C732	VCKYPA1HF103Z+	X	0.01	50V	Ceramic	AA
C735	VCCCPA1HH680J+	X	68p	50V	Ceramic	AA
C737	VCEA0A1EW226M+	X	22	25V	EL.	AB
C738	RC-KZ0040CEZZ	X	820p	2kV	Ceramic	AB
C739	VCEA0A1HW104M+	X	0.1	50V	EL.	AB
C740	VCEA0A1EW476M+	X	47	25V	EL.	AB
C743	VCKYPH3DB561K	X	560p	2kV	Ceramic	AB
C750	VCKYPA1HF103Z+	X	0.01	50V	Ceramic	AA
C752	VCEA0A1CW476M+	X	47	16V	EL.	AB
C754	VCEA0A1CW476M+	X	47	16V	EL.	AB
C758	VCEA0A2EW106M+	X	10	250V	EL.	AB
C759	VCKYPA2HB102K+	X	1000p	500V	Ceramic	AB
C760	VCEA0A1CW108M+	X	1000	16V	EL.	AB
C771	VCEA0A1CW476M+	X	47	16V	EL.	AB
C772	VCEA0A1CW476M+	X	47	16V	EL.	AB
C783	VCQYTA1HM103J+	X	0.01	50V	Mylar	AB
C801	VCCCCY1HH180JY	X	18p	50V	Ceramic	AA
C802	VCEA0A1CW106M+	X	10	16V	EL.	AB
C807	VCKYCY1EF104ZY	X	0.1	25V	Ceramic	AA
C808	VCEA0A1CW106M+	X	10	16V	EL.	AB
C809	VCEA0A1HW105M+	X	1.0	50V	EL.	AB
C811	VCKYCY1CB473KY	X	0.047	16V	Ceramic	AA
C812	VCEA0A1HW474M+	X	0.47	50V	EL.	AB
C901	VCEA0A1HW105M+	X	1.0	50V	EL.	AB
C905	VCEA0A1HW106M+	X	10	50V	EL.	AB
C2001	VCCCCY1HH101JY	X	100p	50V	Ceramic	AA
C2002	VCKYCY1HF103ZY	X	0.01	50V	Ceramic	AA
C2040	VCEA0A1AW107M+	X	100	10V	EL.	AB
C2041	VCEA0A1HW105M+	X	1.0	50V	EL.	AB
C2060	VCKYCY1CB104KY	X	0.1	16V	Ceramic	AA
C2061	VCKYCY1HB222KY	X	2200p	50V	Ceramic	AA
C2062	VCEA0A1AW107M+	X	100	10V	EL.	AB
C2201	VCKYCY1HB682KY	X	6800p	50V	Ceramic	AA
C2202	VCCCCY1HH560JY	X	56p	50V	Ceramic	AA
C2601	VCEA0A0JW107M+	X	100	6.3V	EL.	AB
C2602	VCCCCY1HH101JY	X	100p	50V	Ceramic	AA

RESISTORS
[M-Ox.··· Metal Oxide, M-Film ··· Metal Film]

Ref. No.	Part No.	★	Description			Code
RJ2	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ7	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ8	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA

PWB-A: DUNTKA358WEX1
MAIN UNIT (Continued)

RESISTORS

[M-Ox.··· Metal Oxide, M-Film ··· Metal Film]

	Ref. No.	Part No.	★	Description			Code
	RJ9	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
	RJ10	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
	RJ12	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
	RJ18	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
	RJ19	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
	RJ20	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
	RJ21	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
	RJ16	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
	RJ18	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
	RJ19	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
	RJ20	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
	RJ21	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
	R53	VRS-RG3LB223J+	X	22k	3W	M-Ox.	AB
	R54	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
	R55	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
	R56	VRS-CY1JF823JY	X	82k	1/16W	M-Ox.	AA
	R57	VRD-RA2BE563JY	X	56k	1/8W	Carbon	AA
	R101	VRD-RA2BE152JY	X	1.5k	1/8W	Carbon	AA
	R201	VRS-CY1JF221JY	X	220	1/16W	M-Ox.	AA
	R202	VRS-CY1JF122JY	X	1.2k	1/16W	M-Ox.	AA
	R203	VRS-CY1JF682JY	X	6.8k	1/16W	M-Ox.	AA
	R204	VRS-CY1JF270JY	X	27	1/16W	M-Ox.	AA
	R205	VRD-RA2BE680JY	X	68	1/8W	Carbon	AA
	R206	VRD-RA2EE151JY	X	150	1/4W	Carbon	AA
	R207	VRD-RA2BE223JY	X	22k	1/8W	Carbon	AA
	R208	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
	R209	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
	R210	VRS-CY1JF104JY	X	100k	1/16W	M-Ox.	AA
	R211	VRS-CY1JF104JY	X	100k	1/16W	M-Ox.	AA
	R212	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
	R215	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
	R220	VRS-CY1JF331JY	X	330	1/16W	M-Ox.	AA
	R301	VRS-CY1JF102JY	X	1.0k	1/16W	M-Ox.	AA
	R302	VRS-CY1JF152JY	X	1.5k	1/16W	M-Ox.	AA
	R353	VRD-RA2BE683JY	X	68k	1/8W	Carbon	AA
	R354	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
	R355	VRD-RA2BE223JY	X	22k	1/8W	Carbon	AA
	R357	VRS-CY1JF822JY	X	8.2k	1/16W	M-Ox.	AA
	R401	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
	R402	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
	R403	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
	R404	VRD-RA2BE102JY	X	1.0k	1/8W	Carbon	AA
	R411	VRS-CY1JF684JY	X	680k	1/16W	M-Ox.	AA
	R412	VRS-CY1JF391JY	X	390	1/16W	M-Ox.	AA
	R413	VRS-CY1JF102JY	X	1.0k	1/16W	M-Ox.	AA
	R414	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
	R421	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
⚠	R451	VRS-RG2HC103J+	X	10k	1/2W	M-Ox.	AB
	R453	VRD-RA2BE152JY	X	1.5k	1/8W	Carbon	AA
	R454	VRD-RA2EE334JY	X	330k	1/4W	Carbon	AA
	R455	VRD-RA2BE392JY	X	3.9k	1/8W	Carbon	AA
	R456	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
	R457	VRD-RA2BE102JY	X	1.0k	1/8W	Carbon	AA
	R458	VRD-RA2EE334JY	X	330k	1/4W	Carbon	AA
	R460	VRD-RA2BE152JY	X	1.5k	1/8W	Carbon	AA
	R461	VRS-CY1JF184JY	X	180k	1/16W	M-Ox.	AA
	R462	VRS-CY1JF273JY	X	27k	1/16W	M-Ox.	AA
	R495	VRS-RG3DB820J+	X	180k	1/16W	M-Ox.	AB
	R512	VRD-RM2HD102JY	X	1.0k	1/2W	Carbon	AA
	R513	VRD-RM2HD102JY	X	1.0k	1/2W	Carbon	AA
	R514	VRD-RM2HD1R0JY	X	1.0	1/2W	Carbon	AA
	R515	VRS-RG3AB391J+	X	390	1W	M-Ox.	AB
	R516	VRS-CY1JF153JY	X	15k	1/16W	M-Ox.	AA
	R517	VRS-CY1JF102JY	X	1.0k	1/16W	M-Ox.	AA
	R518	VRS-CY1JF333JY	X	33k	1/16W	M-Ox.	AA
	R519	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
	R520	VRD-RM2HD1R5JY	X	1.5	1/2W	Carbon	AA
	R522	VRD-RA2BE102JY	X	1.0k	1/2W	Carbon	AA
	R523	VRD-RA2BE562JY	X	5.6k	1/8W	Carbon	AA
	R525	VRD-RA2BE272JY	X	2.7k	1/8W	Carbon	AA

	Ref. No.	Part No.	★	Description			Code
	R527	VRD-RA2BE223JY	X	22k	1/8W	Carbon	AA
	R528	VRD-RA2BE272JY	X	2.7k	1/8W	Carbon	AA
	R529	VRD-RA2BE472JY	X	4.7k	1/8W	Carbon	AA
⚠	R604	VRS-RG3DB682J+	X	6.8k	2W	M-Ox.	AB
	R605	VRD-RA2BE121JY	X	120	1/8W	Carbon	AA
	R606	VRD-RA2BE102JY	X	1.0k	1/8W	Carbon	AA
	R607	VRS-RG3DB682J+	X	6.8k	2W	M-Ox.	AB
⚠	R608	VRS-RG3DB391J+	X	390	2W	M-Ox.	AB
⚠	R609	VRS-RG3AB562J+	X	5.6k	1W	M-Ox.	AB
	R610	VRD-RM2HD220JY	X	22	1/2W	Carbon	AA
⚠	R611	VRS-KA3HG3R3K	X	3.3	5W	M-Ox.	AB
	R622	VRS-CY1JF222JY	X	2.2k	1/16W	M-Ox.	AA
	R623	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
	R624	VRN-RA2BK472FY	X	4.7k	1/8W	M-Film	AB
	R634	VRD-RM2HD121JY	X	120	1/2W	Carbon	AA
	R635	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
	R636	VRD-RA2EE221JY	X	220	1/4W	Carbon	AA
⚠	R641	VRS-RG3AB682J+	X	6.8k	1W	M-Ox.	AB
	R651	VRD-RM2HD270JY	X	27	1/2W	Carbon	AA
	R653	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
	R654	VRD-RA2BE154JY	X	150k	1/8W	Carbon	AA
	R655	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
	R659	VRN-RL3AB3R3J+	X	3.3	1W	M-Ox.	AB
	R661	VRN-RL3ABR47J+	X	0.47	1W	M-Film	AB
	R662	VRD-RA2BE102GY	X	1.0k	1/8W	Carbon	AA
⚠	R702	RR-DZ0049CEZZY	X	3.9M	1/2W	Carbon	AB
⚠	R703	VRW-KP3HC1R8K	X	1.8	5W	Cement	AB
⚠	R705	VRN-RL3ABR39J+	X	0.39	1W	M-Ox.	AB
⚠	R706	VRN-RL3ABR39J+	X	0.39	1W	M-Ox.	AB
⚠	R707	VRD-RM2HD270JY	X	27	1/2W	Carbon	AA
⚠	R708	VRS-CY1JF102JY	X	1.0k	1/16W	M-Ox.	AA
⚠	R710	VRS-RG2HC102J+	X	1k	1/2W	M-Ox.	AB
⚠	R711	VRS-CY1JF334JY	X	330k	1/16W	M-Ox.	AA
	R712	VRD-RA2BE100JY	X	10	1/8W	Carbon	AA
	R713	VRS-RG2HC122J+	X	1.2k	1/2W	M-Ox.	AB
	R715	VRD-RA2BE150JY	X	15	1/8W	Carbon	AA
	R716	VRS-RG3AB121J+	X	120	1W	M-Ox.	AB
	R721	VRD-RM2HD124JY	X	120k	1/2W	Carbon	AA
	R723	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
	R725	VRS-RG2HC821J+	X	820	1/2W	M-Ox.	AB
	R733	VRD-RA2EE394JY	X	390k	1/4W	Carbon	AA
	R736	VRD-RM2HD184JY	X	180k	1/2W	Carbon	AA
	R739	VRD-RM2HD332JY	X	3.3k	1/2W	Carbon	AA
	R740	VRD-RM2HD470JY	X	47	1/2W	Carbon	AA
	R741	VRN-RA2BK682FY	X	6.8k	1/8W	M-Film	AB
	R751	VRD-RA2BE821JY	X	820	1/8W	Carbon	AA
	R752	VRD-RA2BE392JY	X	3.9k	1/8W	Carbon	AA
⚠	R755	VRD-RM2HD151JY	X	150	1/2W	Carbon	AA
⚠	R758	VRS-RG2HC100J+	X	10	1/2W	M-Ox.	AB
	R759	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
⚠	R773	VRS-VV3LB270J	X	27	3.0W	M-Ox.	AB
	R774	VRS-VV3LB680J	X	68	3.0W	M-Ox.	AB
	R801	VRD-RM2HD470JY	X	47	1/2W	Carbon	AA
	R807	VRS-CY1JF272JY	X	2.7k	1/16W	M-Ox.	AA
	R808	VRS-CY1JF222JY	X	2.2k	1/16W	M-Ox.	AA
	R809	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
	R810	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
	R901	VRD-RA2BE101JY	X	100	1/8W	M-Ox.	AA
	R902	VRS-CY1JF750JY	X	75	1/16W	M-Ox.	AA
	R906	VRS-CY1JF102JY	X	1.0k	1/16W	M-Ox.	AA
	R925	VRS-CY1JF104JY	X	100k	1/16W	M-Ox.	AA
	R961	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
	R962	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
	R2001	VRS-CY1JF102JY	X	1.0k	1/16W	M-Ox.	AA
	R2002	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
	R2006	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
	R2008	VRS-CY1JF472JY	X	4.7k	1/16W	M-Ox.	AA
	R2009	VRS-CY1JF102JY	X	1.0k	1/16W	M-Ox.	AA
	R2010	VRS-CY1JF102JY	X	1.0k	1/16W	M-Ox.	AA
	R2012	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
	R2016	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
	R2018	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
	R2020	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
	R2022	VRS-CY1JF333JY	X	33k	1/8W	Carbon	AA
	R2023	VRD-RA2BE223JY	X	22k	1/8W	Carbon	AA
	R2024	VRD-RA2BE682JY	X	6.8k	1/8W	Carbon	AA
	R2025	VRD-RA2BE682JY	X	6.8k	1/8W	Carbon	AA
	R2026	VRD-RA2BE682JY	X	6.8k	1/8W	Carbon	AA
	R2027	VRD-RA2BE682JY	X	6.8k	1/8W	Carbon	AA
	R2028	VRS-CY1JF102JY	X	1.0k	1/16W	M-Ox.	AA

PWB-A: DUNTKA358WEX1
MAIN UNIT (Continued)

RESISTORS (Continued)

Ref. No.	Part No.	★	Description			Code
R2029	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R2032	VRD-RA2BE471JY	X	470	1/8W	Carbon	AA
R2033	VRS-CY1JF684JY	X	680k	1/16W	M-Ox.	AA
R2034	VRS-CY1JF684JY	X	680k	1/16W	M-Ox.	AA
R2040	VRS-CY1JF102JY	X	1.0k	1/16W	M-Ox.	AA
R2041	VRS-CY1JF333JY	X	33k	1/16W	M-Ox.	AA
R2042	VRD-RA2BE101JY	X	100	1/8W	M-Ox.	AA
R2043	VRD-RA2BE101JY	X	100	1/8W	M-Ox.	AA
R2044	VRS-CY1JF683JY	X	68k	1/16W	M-Ox.	AA
R2045	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2047	VRS-CY1JF221JY	X	220	1/16W	M-Ox.	AA
R2048	VRS-CY1JF562JY	X	5.6k	1/16W	M-Ox.	AA
R2049	VRS-CY1JF333JY	X	33k	1/16W	M-Ox.	AA
R2060	VRS-CY1JF221JY	X	220	1/16W	M-Ox.	AA
R2061	VRS-CY1JF562JY	X	5.6k	1/16W	M-Ox.	AA
R2062	VRS-CY1JF183JY	X	18k	1/16W	M-Ox.	AA
R2063	VRS-CY1JF222JY	X	2.2k	1/16W	M-Ox.	AA
R2065	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R2066	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R2067	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R2068	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R2070	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R2072	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R2103	VRD-RA2BE101JY	X	100	1/8W	M-Ox.	AA
R2104	VRD-RA2BE101JY	X	100	1/8W	M-Ox.	AA
R2201	VRD-RA2BE103JY	X	10k	1/8W	M-Ox.	AA
R2202	VRD-RA2BE473JY	X	47k	1/8W	Carbon	AA
R2203	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R2211	VRD-RA2BE222JY	X	2.2k	1/8W	Carbon	AA
R2212	VRS-CY1JF682JY	X	6.8k	1/16W	M-Ox.	AA
R2213	VRD-RA2BE223JY	X	22k	1/8W	Carbon	AA
R2401	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2402	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2403	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2404	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2501	VRS-CY1JF123JY	X	12k	1/16W	M-Ox.	AA
R2503	VRS-CY1JF273JY	X	27k	1/16W	M-Ox.	AA
R2504	VRS-CY1JF123JY	X	12k	1/16W	M-Ox.	AA
R2505	VRS-CY1JF563JY	X	56k	1/16W	M-Ox.	AA
R2506	VRS-CY1JF563JY	X	56k	1/16W	M-Ox.	AA
R2507	VRS-CY1JF823JY	X	82k	1/16W	M-Ox.	AA
R2508	VRS-CY1JF153JY	X	15k	1/16W	M-Ox.	AA
R2509	VRS-CY1JF272JY	X	2.7k	1/16W	M-Ox.	AA
R2601	VRD-RA2BE100JY	X	10	1/8W	Carbon	AA
R2603	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R2605	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R2607	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA

SWITCHES

Ref. No.	Part No.	★	Description		Code
S2501	QSW-K0202PEZZ+	X	SWITCH	Power	AB
S2502	QSW-K0202PEZZ+	X	SWITCH	Vol-Down	AB
S2503	QSW-K0202PEZZ+	X	SWITCH	Vol-Up	AB
S2504	QSW-K0202PEZZ+	X	SWITCH	CH-Down	AB
S2505	QSW-K0202PEZZ+	X	SWITCH	CH-Up	AB

MISCELLANEOUS PARTS

	Ref. No.	Part No.	★	Description	Code
U	RY701	RRLYJ0081CEZZ	X	RELAY	AD
U	F701	QFS-B4023CEZZ	X	FUSE - 4A 125V	AB
	FB351	RBLN-0047CEZZY	X	FERRITE BEAD	AB
	FB601	RBLN-0047CEZZY	X	FERRITE BEAD	AB
	FB2002	RBLN-0037CEZZY	X	FERRITE BEAD	AB
	FH701	QFSHD1013CEZZ+	X	FUSE CLIP	AB
	FH702	QFSHD1014CEZZ+	X	FUSE CLIP	AB

JACK (A/V)

Ref. No.	Part No.	★	Description	Code
J903	QJAKE0211CE09	X	JACK (AUDIO IN)	AC
J905	QJAKE0211CE04	X	JACK (VIDEO IN)	AC

PLUG

Ref. No.	Part No.	★	Description	Code
P302	QPLGN0261CEZZ	X	PLUG (2 PINS)	AB
P401	QPLGN0561CEZZA	X	PLUG (5 PINS) RHU	AB
P601	QPLGN0660CEZZ	X	PLUG (6 PINS)	AB

MISCELLANEOUS PARTS

Ref. No.	Part No.	★	Description	Code
P651	QPLGN0361CEZZA	X	PLUG (3 PINS) RHU	AB
P701	QPLGN0260CEZZ	X	PLUG (2 PINS)	AB
P751	QPLGN0461CEZZA	X	PLUG (4 PINS) RHU	AB
P2001	QPLGN0561CEZZA	X	PLUG (5 PINS) RHU	AB
RMC2601	RRMCU0222CEZZ	X	R/C RECEIVER	AD
JA409	RBLN-0047CEZZ*	X	FERRITE BEAD	AB
RDA501	PRDAR0106GJFW	X	HEATSINK (STEEL)	AB
RDA602	PRDAR0216PEFW	X	HEATSINK (STEEL)	AB
RDA701	PRDAR0026PEFW	X	HEATSINK (STEEL)	AB
	LX-BZ3100CEFD	X	SCREW	AA
	LX-TZ3004CEFD	X	SCREW	AA

DUNTKA359WEW0
PWB-B CRT Unit

TRANSISTORS

Ref. No.	Part No.	★	Description	Code
Q852	VSBF422////-1+	X	BF422	AB
Q854	VSBF422////-1+	X	BF422	AB
Q856	VSBF422////-1+	X	BF422	AB
Q881	VS2SA1266-Y-1+	X	2SA1266(Y)	AB

DIODES

Ref. No.	Part No.	★	Description	Code
D882	RH-DX0475CEZZY	X	Diode	AB
D885	RH-DX0475CEZZY	X	Diode	AB

COILS

Ref. No.	Part No.	★	Description		Code
L852	VP-MK820K0000+	X	Peaking	82μH	AB

CAPACITORS

Ref. No.	Part No.	★	Description			Code
C851	VCCCCY1HH151JY	X	150p	50V	Ceramic	AA
C852	VCCCCY1HH151JY	X	150p	50V	Ceramic	AA
C853	VCCSPA1HL151J+	X	150p	50V	Ceramic	AA
C854	RC-KZ0029CEZZ+	X	0.01	250V	Ceramic	AB
C883	VCEA0A1CW336M+	X	33	16V	EL.	AB

RESISTORS

	Ref. No.	Part No.	★	Description			Code
	R852	VRD-RA2BE181JY	X	180	1/8W	Carbon	AA
	R853	VRS-CY1JF121JY	X	120	1/16W	M-Ox.	AA
U	R857	VRS-VV3AB123J	X	12K	1W	M-Ox.	AB
	R858	VRD-RM2HD332JY	X	3.3k	1/2W	Carbon	AA
	R860	VRD-RA2BE181JY	X	180	1/8W	Carbon	AA
	R861	VRS-CY1JF121JY	X	120	1/16W	M-Ox.	AA
U	R865	VRS-VV3AB123J	X	12K	1W	M-Ox.	AB
	R866	VRD-RM2HD332JY	X	3.3k	1/2W	Carbon	AA
	R867	VRS-CY1JF470JY	X	47	1/16W	M-Ox.	AA
	R868	VRS-CY1JF181JY	X	180	1/16W	M-Ox.	AA
	R869	VRS-CY1JF121JY	X	120	1/16W	M-Ox.	AA
U	R873	VRS-VV3AB123J	X	12K	1W	M-Ox.	AB
	R874	VRD-RM2HD332JY	X	3.3k	1/2W	Carbon	AA
	R881	VRS-CY1JF561JY	X	560	1/16W	M-Ox.	AA
	R882	VRS-CY1JF391JY	X	390	1/16W	M-Ox.	AA
	R883	VRD-RA2BE561JY	X	560	1/8W	Carbon	AA
	R884	VRS-CY1JF152JY	X	1.5k	1/16W	M-Ox.	AA
	R886	VRS-CY1JF821JY	X	820	1/16W	M-Ox.	AA
	R887	VRD-RA2BE470JY	X	47	1/8W	Carbon	AA
	R890	VRS-CY1JF470JY	X	47	1/16W	M-Ox.	AA
	R891	VRS-CY1JF470JY	X	47	1/16W	M-Ox.	AA

MISCELLANEOUS PARTS

Ref. No.	Part No.	★	Description	Code
P851	QPLGN0561CEZZ	X	PLUG (5 PINS)	AB
P852	QPLGN0461CEZZ	X	PLUG (4 PINS)	AB
SC852	QSOCV0840CEZZ	X	SOCKET (CRT)	AC

MISCELLANEOUS PARTS

Ref. No.	Part No.	★	Description	Code
⚠ ACC701	QACCDA015WJPZ	X	AC-CORD	AE
SP1	VSP0080PBK98A	X	SPEAKER	AD
	QCNW-2111PEZZ	X	WIRE (YBN)	AB
	QCNW-2111PEZZ	X	SPEAKER WIRE	AC
	QCNW-2160PEZZ	X	WIRE (GBN)	AC
	LHLDK0014PEZZ	X	AC CORD HOLDER	AB
	LHLDZ0063PEZZ	X	HOLDER (INSULATOR RING)	AB
	TLABM0003GJZZ	X	MODEL LABEL (NOM-120V)	AB
	TLABN0101GJZZ	X	REMARK LABEL(CHASSIS ID)	AB
	LX-TZ0104GJFD	X	SCREW (CRT)	AB
	LX-WZ0102GJFD	X	CRT WASHER	AB
	XTASD40P20000	X	SCREW (CAB)	AA

SUPPLIED ACCESORRIES

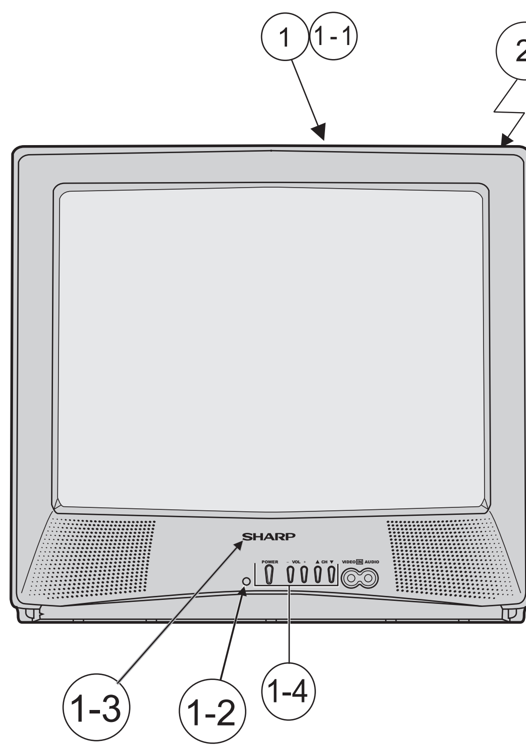
Ref. No.	Part No.	★	Description	Code
	RRMCG1339CESB	X	R/C GUN	AH
	TINS-B157WJZZ	X	OPERATION MANUAL	AC
	TCAUS3000GJZZ	X	CAUTION LABEL	AA

PACKING PARTS
(NOT REPLACEMENT ITEM)

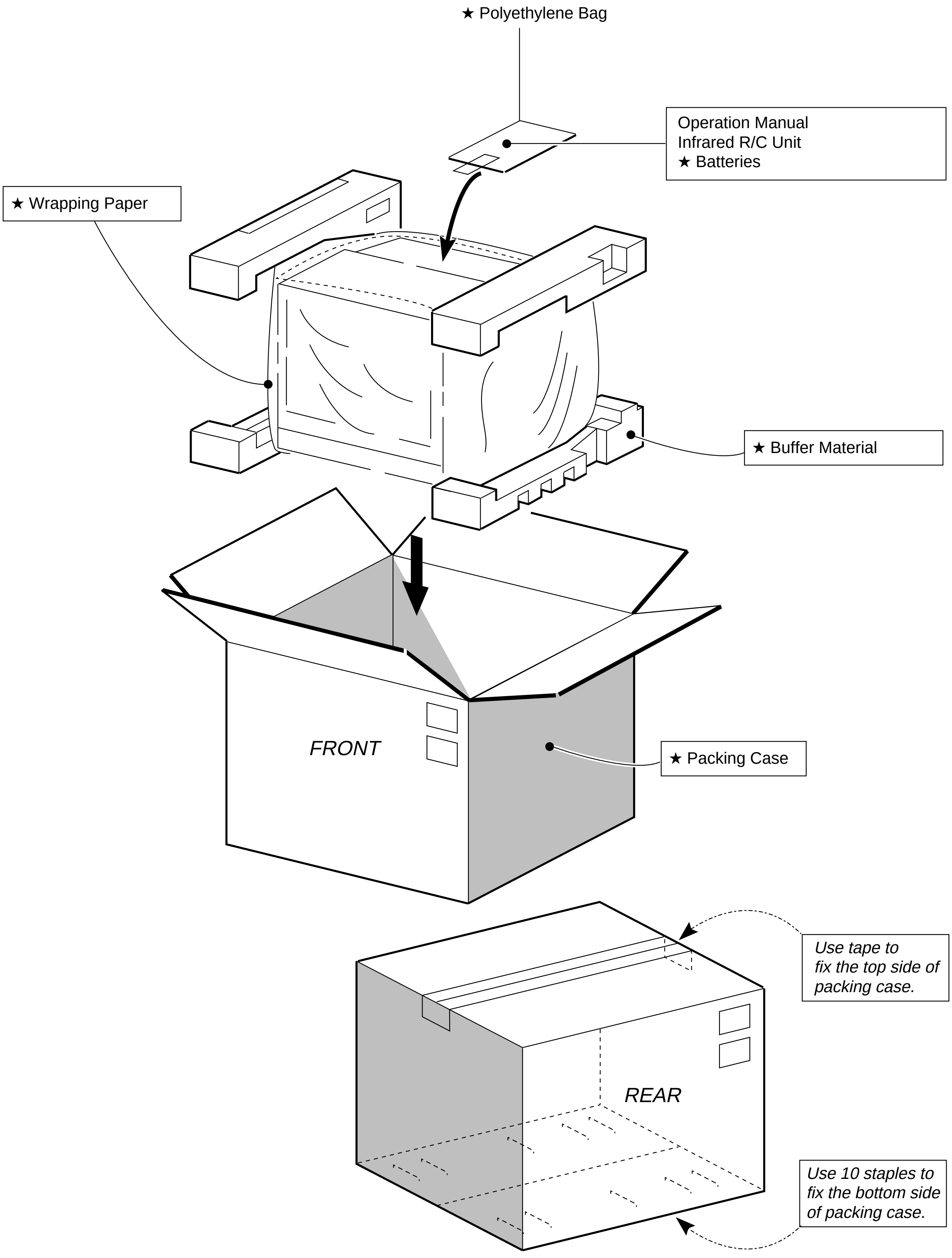
Ref. No.	Part No.	«	Description	Code
	SPAKCB228WJZZ	X	PACKING CASE	AP
	SPAKP0102GJZZ	X	LAMIFOAM (457MM X 1800MM)	AC
	SPAKX0003GJZZ	X	PACKING FOAM	AG
	SSAKA0101GJZZ	X	PLASTIC BAG	AB

CABINET PARTS

Ref. No.	Part No.	«	Description	Code
1	CCABA0108WEJ1	X	CAB-A ASSY	AY
1-1	Not Available	—	FRONT CABINET	
1-2	GCOVA0003GJSA	X	R/C COVER	
1-3	HBDGB1001GJSA	X	BADGE	AB
1-4	JBTN-0003GJSG	X	BUTTON Button(Power, Vol-up/down,CH-up/down)	AD
2	GCABB0109GJKA	X	REAR CABINET	AS



PACKING OF THE SET



★ MARK : Not replacement items.

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